CERTIFICATE OF MAILING (37 CFR 1.8 (a)).

I hereby certify that the attached papers or fee is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, DC 20231.

March 11, 2002 (Date) Amy L. Hamm (Printed Name) Amy L. Hamm (Signature)

Atty. Docket #: 5500*42

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: Michel Droux et al.

SERIAL NO: 09/486,334

FILED: July 18, 2000

ART UNIT: 1638

EXAMINER: A. Kubelik

FOR: "Method For Increasing The Content Of Sulphur Compounds And In Particular Of Cysteine, Methoinine And Glutathione In Plants And Plants Obtained"

Assistant Commissioner for Patents
Washington, D.C. 20231

SUBMISSION OF PROPOSED DRAWING AMENDMENTS FOR APPROVAL BY THE EXAMINER

Sir:

Submitted herewith are copies of Figures 1-12 with proposed changes marked in red for the Examiner's approval. In the Office Action of September 10, 2002, the Examiner objected to the drawings because the legends are in French. Changes in the drawings are requested to remove French language legends and words and substitute legends and words in English. Figures 4-7 have also been amended to make the characters more legible in accordance with PTO Form 948.

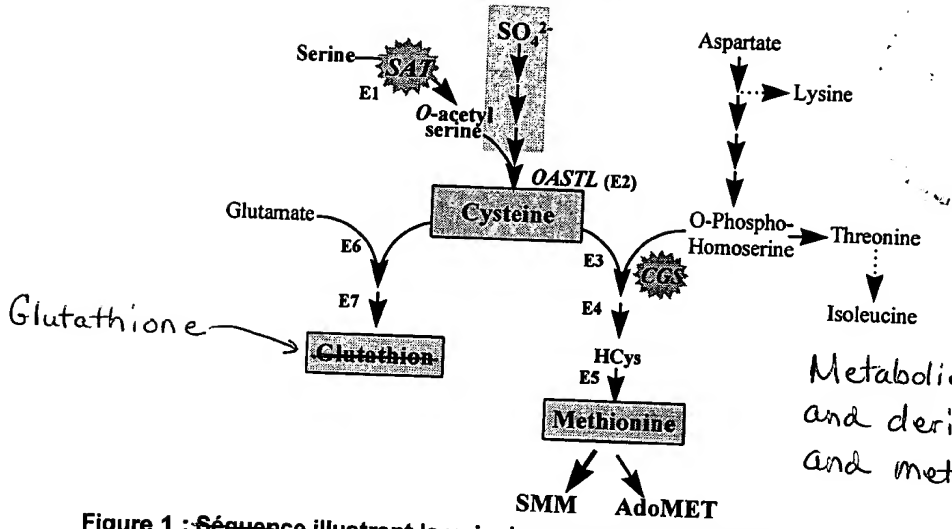
Respectfully submitted,

CONNOLLY BOVE LODGE & HUTZ LLP

Date: March 11, 2002

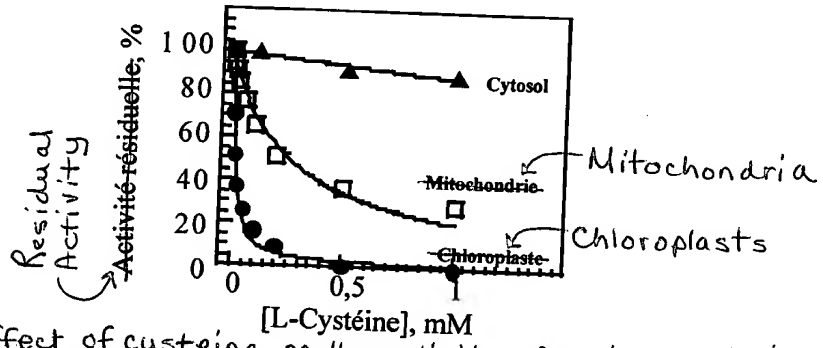
By: Liza D. Hohenschutz

Liza D. Hohenschutz
Reg. No. 33,712
P.O. Box 2207
Wilmington, Delaware 19899
(302) 888-6420
Attorney for Applicants



Metabolic pathway of cysteine and derivatives glutathione and methionine

Figure 1 : ~~Séquence illustrant la voie de synthèse de la cystéine et des dérivés soufrés (glutathion et méthionine).~~



Effect of cysteine on the activity of serine acetyltransferases from pea (Pisum sativum)

Figure 2 : ~~Effet de la cystéine sur les activités sérine acétyltransférase de pois (*Pisum sativum*).~~

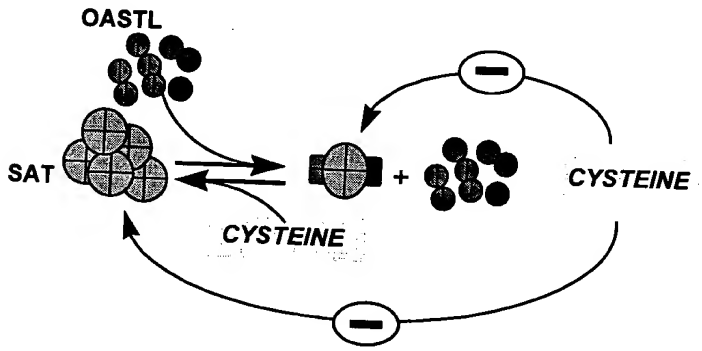


Figure 3 : ~~Modèle de l'inhibition de la serine acetyltransferase chloroplastique.~~

Model of inhibition of chloroplast serine acetyltransferase

```
M   A   T   C   I   D   T   C   R   T   G   N   T   Q   D   D          16
ATG GCA ACA TGC ATA GAC ACA TGC CGA ACC GGT AAT ACC CAA GAC GAT          48
D   S   R   F   C   C   I   K   N   F   F   R   P   G   F   S          32
GAT TCC CGG TTC TGT TGC ATC AAG AAT TTC TTT CGA CCC GGT TTC TCT          96
V   N   R   K   I   H   H   T   Q   I   E   D   D   D   D   V          48
GTA AAC CGG AAG ATT CAC CAC ACC CAA ATC GAA GAT GAC GAT GAT GTC         144
W   I   K   M   L   E   E   A   K   S   D   V   K   Q   E   P          64
TGG ATC AAG ATG CTT GAA GAA GCC AAA TCC GAT GTT AAA CAA GAA CCC         192
I   L   S   N   Y   Y   Y   A   S   I   T   S   H   R   S   L          80
ATT TTA TCA AAC TAC TAC TAC GCT TCG ATC ACA TCT CAT CGA TCT TTA         240
E   S   A   L   A   H   I   L   S   V   K   L   S   N   L   N          96
GAG TCT GCT TTA GCT CAC ATC CTC TCC GTA AAG CTC AGC AAT TTA AAC         288
L   P   S   N   T   L   F   E   L   F   I   S   V   L   E   E         112
CTA CCA AGC AAC ACA CTC TTC GAA CTG TTC ATA AGC GTT TTA GAA GAA         336
S   P   E   I   I   E   S   T   K   Q   D   L   I   A   V   K         128
AGC CCT GAG ATC ATC GAA TCC ACG AAG CAA GAT CTT ATA GCA GTC AAA         384
E   R   D   P   A   C   I   S   Y   V   H   C   F   L   G   F         144
GAA AGA GAC CCA GCT TGT ATA AGC TAC GTT CAT TGC TTC TTG GGC TTC         432
K   G   F   L   A   C   Q   A   H   R   I   A   H   T   L   W         160
AAA GGC TTC CTC GCT TGT CAA GCT CAT CGA ATA GCT CAT ACC CTC TGG         480
K   Q   N   R   K   I   V   A   L   L   I   Q   N   R   V   S         176
AAA CAG AAC AGA AAA ATC GTA GCT TTA TTG ATC CAA AAC AGA GTA TCA         528
E   S   F   A   V   D   I   H   P   G   A   K   I   G   K   G         192
GAA TCT TTC GCC GTC GAT ATT CAT CCC GGA GCG AAG ATC GGA AAA GGG         576
I   L   L   D   H   A   T   G   V   V   I   G   E   T   A   V         208
ATT CTT TTA GAC CAT GCG ACG GGC GTG GTG ATC GGA GAG ACG GCG GTG         624
V   G   D   N   V   S   I   L   H   G   V   T   L   G   G   T         224
GTT GGA GAC AAT GTT TCG ATT CTA CAC GGA GTG ACC TTG GGA GGA ACA         672
G   K   Q   S   G   D   R   H   P   K   I   G   D   G   V   L         240
GGG AAA CAG AGT GGT GAT CGG CAT CCG AAG ATT GGT GAT GGT GTG TTG         720
I   G   A   G   S   C   I   L   G   N   I   T   I   G   E   G         256
ATT GGA GCT GGG AGT TGT ATA TTG GGG AAT ATA ACA ATC GGT GAG GGA         768
A   K   I   G   S   G   S   V   V   V   K   D   V   P   A   R         272
GCT AAG ATT GGA TCA GGG TCG GTG GTG GTT AAG GAT GTG CCG GCG CGT         816
T   T   A   V   G   N   P   A   R   L   I   G   G   K   E   N         288
ACG ACG GCG GTT GGA AAT CCG GCG AGG TTG ATT GGT GGG AAA GAG AAT         864
P   R   K   H   D   K   I   P   C   L   T   M   D   Q   T   S         304
CCG AGA AAA CAT GAT AAG ATT CCT TGT CTG ACT ATG GAC CAG ACA TCG         912
 Y   L   T   E   W   S   D   Y   V   I
TAT TTA ACC GAG TGG TCT GAT TAT GTG ATT TAA                             314
                                                                       945
```

Figure 4: ~~Séquence nucléotidique et peptidique du gène de l'isoforme SAT 3 (L34076) d'*A. thaliana*~~

Nucleotide and protein sequences of the SAT3 (L34076) isoform from A. thaliana

```
                M   P   P   A   G   E   L   R   H   Q   S   P   S   K          14
                ATG CCA CCG GCC GGA GAA CTC CGA CAT CAA TCT CCA TCA AAG        42
            E   K   L   S   S   V   T   Q   S   D   E   A   E   A   A   S      30
GAG AAA CTA TCT TCC GTT ACC CAA TCC GAT GAA GCA GAA GCA GCG TCA                90
A   A   I   S   A   A   A   A   D   A   E   A   A   G   L   W                  46
GCA GCG ATA TCT GCG GCA GCT GCA GAT GCG GAA GCT GCC GGA TTA TGG                138
T   Q   I   K   A   E   A   R   R   D   A   E   A   E   P   A                  62
ACA CAG ATC AAG GCG GAA GCT CGC CGT GAT GCT GAG GCG GAG CCA GCT                186
L   A   S   Y   L   Y   S   T   I   L   S   H   S   S   L   E                  78
TTA GCT AGC TAT CTA TAT TCG ACG ATT CTT TCT CAT TCG TCT CTT GAA                234
R   S   I   S   F   H   L   G   N   K   L   C   S   S   T   L                  94
CGA TCT ATC TCG TTT CAT CTA GGA AAC AAG CTT TGT TCC TCA ACG CTT                282
L   S   T   L   L   Y   D   L   F   L   N   T   F   S   S   D                  110
TTA TCC ACA CTT TTA TAC GAT CTG TTC TTA AAC ACT TTT TCC TCC GAT                330
P   S   L   R   N   A   T   V   A   D   L   R   A   A   R   V                  126
CCT TCT CTT CGT AAC GCC ACC GTC GCA GAT CTA CGC GCT GCT CGT GTT                378
R   D   P   A   C   I   S   F   S   H   C   L   L   N   Y   K                  142
CGT GAT CCT GCT TGT ATC TCG TTC TCT CAT TGT CTC CTC AAT TAC AAA                426
G   F   L   A   I   Q   A   H   R   V   S   H   K   L   W   T                  158
GGC TTC TTA GCT ATT CAG GCG CAT CGT GTA TCA CAC AAG CTA TGG ACA                474
Q   S   R   K   P   L   A   L   A   L   H   S   R   I   S   D                  174
CAA TCA CGG AAG CCA TTA GCA TTA GCT CTA CAC TCA AGA ATC TCC GAT                522
V   F   A   V   D   I   H   P   A   A   K   I   G   K   G   I                  190
GTA TTC GCT GTT GAT ATC CAT CCA GCA GCG AAG ATC GGA AAA GGG ATA                570
L   L   D   H   A   T   G   V   V   V   G   E   T   A   V   I                  206
CTT CTA GAC CAC GCA ACC GGA GTT GTA GTC GGA GAA ACA GCG GTG ATT                618
G   N   N   V   S   I   L   H   H   V   T   L   G   G   T   G                  222
GGG AAC AAT GTT TCA ATC CTT CAC CAT GTG ACA CTA GGT GGA ACA GGT                666
K   A   C   G   D   R   H   P   K   I   G   D   G   C   L   I                  238
AAA GCT TGT GGA GAT AGA CAT CCG AAG ATC GGT GAC GGT TGT TTG ATT                714
G   A   G   A   T   I   L   G   N   V   K   I   G   A   G   A                  254
GGA GCT GGA GCG ACT ATT CTT GGA AAT GTG AAG ATT GGT GCA GGT GCT                762
K   V   G   A   G   S   V   V   L   I   D   V   P   C   R   G                  270
AAA GTA GGA GCT GGT TCT GTT GTG CTG ATT GAC GTG CCT TGT CGA GGT                810
T   A   V   G   N   P   A   R   L   V   G   G   K   E   K   P                  286
ACT GCG GTT GGG AAT CCG GCG AGA CTT GTC GGA GGG AAA GAG AAG CCA                858
T   I   H   D   E   E   C   P   G   E   S   M   D   H   T   S                  302
ACG ATT CAT GAT GAG GAA TGT CCT GGA GAA TCG ATG GAT CAT ACT TCA                906
 F   I   S   E   W   S   D   Y   I   I...                                     312
TTC ATC TCG GAA TGG TCA GAT TAC ATC ATA TAA                                    939
```

Figure 5: ~~Séquence nucléotidique et peptidique du gène de l'isoforme SAT3' (U30298) d'A. thaliana~~

Nucleotide and protein sequences of the SAT3' (U30298) isoform from A. thaliana

```
M   A   A   C   I   D   T   C   R   T   G   K   P   Q   I                15
ATG GCT GCG TGC ATC GAC ACC TGC CGC ACT GGT AAA CCC CAG ATT            45
S   P   R   D   S   S   K   H   H   D   D   E   S   G   F                30
TCT CCT CGC GAT TCT TCT AAA CAC CAC GAC GAT GAA TCT GGC TTT            90
R   Y   M   N   Y   F   R   Y   P   D   R   S   S   F   N                45
CGT TAC ATG AAC TAC TTC CGT TAT CCT GAT CGA TCT TCC TTC AAT            135
G   T   Q   T   K   T   L   H   T   R   P   L   L   E   D                60
GGA ACC CAG ACC AAA ACC CTC CAT ACT CGT CCT TTG CTT GAA GAT            180
L   D   R   D   A   E   V   D   D   V   W   A   K   I   R                75
CTC GAT CGC GAC GCT GAA GTC GAT GAT GTT TGG GCC AAA ATC CGA            225
E   E   A   K   S   D   I   A   K   E   P   I   V   S   A                90
GAA GAG GCT AAA TCT GAT ATC GCC AAA GAA CCT ATT GTT TCC GCT            270
Y   Y   H   A   S   I   V   S   Q   R   S   L   E   A   A               105
TAT TAT CAC GCT TCG ATT GTT TCT CAG CGT TCG TTG GAA GCT GCG            315
L   A   N   T   L   S   V   K   L   S   N   L   N   L   P               120
TTG GCG AAT ACT TTA TCT GTT AAA CTC AGC AAT TTG AAT CTT CCA            360
S   N   T   L   F   D   L   F   S   G   V   L   Q   G   N               135
AGC AAC ACG CTT TTC GAT TTG TTC TCT GGT GTT CTT CAA GGA AAC            405
P   D   I   V   E   S   V   K   L   D   L   L   A   V   K               150
CCA GAT ATT GTT GAA TCT GTC AAG CTA GAT CTT TTA GCT GTT AAG            450
E   R   D   P   A   C   I   S   Y   V   H   C   F   L   H               165
GAG AGA GAT CCT GCT TGT ATA AGC TAC GTT CAT TGT TTC CTT CAC            495
F   K   G   F   L   A   C   Q   A   H   R   I   A   H   E               180
TTT AAA GGC TTC CTC GCT TGT CAA GCG CAT CGT ATT GCT CAT GAG            540
L   W   T   Q   D   R   K   I   L   A   L   L   I   Q   N               195
CTT TGG ACT CAG GAC AGA AAA ATC CTA GCT TTG TTG ATC CAG AAC            585
R   V   S   E   A   F   A   V   D   F   H   P   G   A   K               210
AGA GTC TCT GAA GCC TTC GCT GTT GAT TTC CAC CCT GGA GCT AAA            630
I   G   T   G   I   L   L   D   H   A   T   A   I   V   I               225
ATC GGT ACC GGG ATT TTG CTA GAC CAT GCT ACG GCT ATT GTG ATC            675
G   E   T   A   V   V   G   N   N   V   S   I   L   H   N               240
GGT GAG ACG GCG GTT GTG GGG AAC AAT GTT TCG ATT CTC CAT AAC            720
V   T   L   G   G   T   G   K   Q   C   G   D   R   H   P               255
GTT ACG CTT GGA GGA ACG GGG AAA CAG TGT GGA GAT AGG CAC CCG            765
K   I   G   D   G   V   L   I   G   A   G   T   C   I   L               270
AAG ATT GGC GAT GGG GTT TTG ATT GGA GCT GGG ACT TGT ATT TTG            810
G   N   I   T   I   G   E   G   A   K   I   G   A   G   S               285
GGG AAT ATC ACG ATT GGT GAA GGA GCT AAG ATT GGT GCG GGG TCG            855
V   V   L   K   D   V   P   P   R   T   T   A   V   G   N               300
GTG GTG TTG AAA GAC GTG CCG CCG CGT ACG ACG GCT GTT GGA AAT            900
P   A   R   L   L   G   G   K   D   N   P   K   T   H   D               315
CCG GCG AGG TTG CTT GGT GGT AAA GAT AAT CCG AAA ACG CAT GAC            945
K   I   P   G   L   T   M   D   Q   T   S   H   I   S   E               330
AAG ATT CCT GGT TTG ACT ATG GAC CAG ACG TCG CAT ATA TCC GAG            990
W   S   D   Y   V   I                                                  336
TGG TCG GAT TAT GTA ATT TGA                                           1011
```

Figure 6: ~~Séquence nucléotidique et peptidique d'un gène de l'isoforme SAT 1' (L78443) d'A. *thaliana*.~~

Nucleotide and protein sequences of the SAT1' (L78443) isoform from A. thaliana

```
                                M   L   P   V   T   S   R   R   H   F          10
                               ATG TTG CCG GTC ACA AGT CGC CGC CAC TTC  30
T   M   S   L   Y   M   L   R   S   S   S   P   H   I   N                  25
ACA ATG TCC CTA TAT ATG CTC CGT TCA TCT TCT CCA CAC ATC AAT              75
H   H   S   F   L   L   P   S   F   V   S   S   K   F   K                  40
CAT CAC TCT TTC CTT CTT CCT TCT TTT GTT TCC TCC AAA TTC AAA              120
H   H   T   L   S   P   P   P   S   P   P   P   P   P   P                  55
CAC CAT ACT TTA TCT CCT CCT CCT TCT CCT CCT CCT CCT CCT CCT              165
M   A   A   C   I   D   T   C   R   T   G   K   P   Q   I                  70
ATG GCT GCG TGC ATC GAC ACC TGC CGC ACT GGT AAA CCC CAG ATT              210
S   P   R   D   S   S   K   H   H   D   D   E   S   G   F                  85
TCT CCT CGC GAT TCT TCT AAA CAC CAC GAC GAT GAA TCT GGC TTT              255
R   Y   M   N   Y   F   R   Y   P   D   R   S   S   F   N                  100
CGT TAC ATG AAC TAC TTC CGT TAT CCT GAT CGA TCT TCC TTC AAT              300
G   T   Q   T   K   T   L   H   T   R   P   L   L   E   D                  115
GGA ACC CAG ACC AAA ACC CTC CAT ACT CGT CCT TTG CTT GAA GAT              345
L   D   R   D   A   E   V   D   D   V   W   A   K   I   R                  130
CTC GAT CGC GAC GCT GAA GTC GAT GAT GTT TGG GCC AAA ATC CGA              390
E   E   A   K   S   D   I   A   K   E   P   I   V   S   A                  145
GAA GAG GCT AAA TCT GAT ATC GCC AAA GAA CCT ATT GTT TCC GCT              435
Y   Y   H   A   S   I   V   S   Q   R   S   L   E   A   A                  160
TAT TAT CAC GCT TCG ATT GTT TCT CAG CGT TCG TTG GAA GCT GCG              480
L   A   N   T   L   S   V   K   L   S   N   L   N   L   P                  175
TTG GCG AAT ACT TTA TCT GTT AAA CTC AGC AAT TTG AAT CTT CCA              525
S   N   T   L   F   D   L   F   S   G   V   L   Q   G   N                  190
AGC AAC ACG CTT TTC GAT TTG TTC TCT GGT GTT CTT CAA GGA AAC              570
P   D   I   V   E   S   V   K   L   D   L   L   A   V   K                  205
CCA GAT ATT GTT GAA TCT GTC AAG CTA GAT CTT TTA GCT GTT AAG              615
E   R   D   P   A   C   I   S   Y   V   H   C   F   L   H                  220
GAG AGA GAT CCT GCT TGT ATA AGC TAC GTT CAT TGT TTC CTT CAC              660
F   K   G   F   L   A   C   Q   A   H   R   I   A   H   E                  235
TTT AAA GGC TTC CTC GCT TGT CAA GCG CAT CGT ATT GCT CAT GAG              705
L   W   T   Q   D   R   K   I   L   A   L   L   I   Q   N                  250
CTT TGG ACT CAG GAC AGA AAA ATC CTA GCT TTG TTG ATC CAG AAC              750
R   V   S   E   A   F   A   V   D   F   H   P   G   A   K                  265
AGA GTC TCT GAA GCC TTC GCT GTT GAT TTC CAC CCT GGA GCT AAA              795
I   G   T   G   I   L   L   D   H   A   T   A   I   V   I                  280
ATC GGT ACC GGG ATT TTG CTA GAC CAT GCT ACG GCT ATT GTG ATC              840
G   E   T   A   V   V   G   N   N   V   S   I   L   H   N                  295
GGT GAG ACG GCG GTT GTG GGG AAC AAT GTT TCG ATT CTC CAT AAC              885
V   T   L   G   G   T   G   K   Q   C   G   D   R   H   P                  310
GTT ACG CTT GGA GGA ACG GGG AAA CAG TGT GGA GAT AGG CAC CCG              930
K   I   G   D   G   V   L   I   G   A   G   T   C   I   L                  325
AAG ATT GGC GAT GGG GTT TTG ATT GGA GCT GGG ACT TGT ATT TTG              975
G   N   I   T   I   G   E   G   A   K   I   G   A   G   S                  340
GGG AAT ATC ACG ATT GGT GAA GGA GCT AAG ATT GGT GCG GGG TCG              1020
V   V   L   K   D   V   P   P   R   T   T   A   V   G   N                  355
GTG GTG TTG AAA GAC GTG CCG CCG CGT ACG ACG GCT GTT GGA AAT              1065
P   A   R   L   L   G   G   K   D   N   P   K   T   H   D                  370
CCG GCG AGG TTG CTT GGT GGT AAA GAT AAT CCG AAA ACG CAT GAC              1110
K   I   P   G   L   T   M   D   Q   T   S   H   I   S   E                  385
AAG ATT CCT GGT TTG ACT ATG GAC CAG ACG TCG CAT ATA TCC GAG              1155
W   S   D   Y   V   I                                                      391
TGG TCG GAT TAT GTA ATT TGA                                          1176
```

Figure 7 : ~~Séquence nucleotidique et peptidique d'un gène de l'isoforme SAT 1 (U 22964) d'*A. thaliana*.~~

Nucleotide and protein sequences of the SAT1 (U 22964) isoform from A. thaliana

```
 M   V   D   L   S   S   F   S   L   L   F   A   F   S   V   S          16
ATG GTG GAT CTA TCT TCC TTT AGC CTC CTT TTT GCT TTC TCC GTC TCT          48
 L   S   F   V   Q   S   K   R   V   C   D   S   S   L   S   S          32
CTC TCT TTT GTC CAA TCA AAA AGA GTT TGT GAT TCT TCT TTA TCG TCT          96
 P   W   R   D   M   N   G   D   E   L   P   F   E   S   G   F          48
CCT TGG AGA GAT ATG AAT GGC GAT GAG CTT CCT TTC GAG AGT GGT TTC         144
 E   V   Y   A   K   G   T   H   K   S   E   F   D   S   N   L          64
GAG GTT TAC GCT AAG GGA ACT CAT AAG TCA GAG TTT GAC TCG AAT TTG         192
 L   D   P   R   S   D   P   I   W   D   A   I   R   E   E   A          80
CTT GAT CCT CGT TCT GAT CCT ATT TGG GAT GCT ATA AGA GAA GAA GCT         240
 K   L   E   A   E   K   E   P   I   L   S   S   F   L   Y   A          96
AAA CTT GAG GCA GAG AAA GAG CCT ATT TTG AGT AGC TTC TTG TAT GCT         288
 G   I   L   A   H   D   C   L   E   Q   A   L   G   F   V   L         112
GGT ATC TTA GCA CAT GAT TGT TTA GAG CAA GCT TTA GGG TTT GTT CTA         336
 A   N   R   L   Q   N   P   T   L   L   A   T   Q   L   L   D         128
GCC AAC CGT CTC CAA AAC CCA ACC TTG TTG GCA ACA CAA CTC TTG GAT         384
 I   P   Y   G   V   M   M   H   D   K   G   I   Q   S   S   I         144
ATA TTT TAT GGT GTT ATG ATG CAT GAC AAA GGT ATT CAG AGT TCG ATT         432
 R   H   D   L   Q   A   F   K   D   R   D   P   A   C   L   S         160
CGC CAT GAT CTC CAG GCA TTT AAA GAT CGT GAT CCT GCT TGT CTG TCG         480
 Y   S   S   A   I   L   H   L   K   G   Y   H   A   L   Q   A         176
TAT AGT TCT GCT ATT TTA CAT CTG AAG GGT TAT CAT GCG TTA CAA GCA         528
 Y   R   V   A   H   K   L   W   N   E   G   R   K   L   L   A         192
TAT AGG GTT GCG CAT AAA CTG TGG AAT GAA GGG AGG AAA CTA TTA GCT         576
 L   A   L   Q   S   R   I   S   E   V   F   G   I   D   I   H         208
CTT GCA TTG CAA AGC CGA ATA AGC GAG GTT TTT GGC ATT GAC ATA CAT         624
 P   A   A   R   I   G   E   G   I   L   L   D   H   G   T   G         224
CCA GCG GCA AGA ATT GGG GAG GGA ATA TTG TTG GAT CAT GGA ACT GGA         672
 V   V   I   G   E   T   A   V   I   G   N   G   V   S   I   L         240
GTG GTC ATT GGT GAG ACC GCT GTG ATA GGC AAC GGT GTC TCG ATC TTA         720
 H   G   V   T   L   G   G   T   G   K   E   T   G   D   R   H         256
CAT GGT GTG ACT TTA GGA GGA ACC GGA AAG GAA ACT GGC GAT CGC CAC         768
 P   K   I   G   E   G   A   L   L   G   A   C   V   T   I   L         272
CCA AAG ATA GGT GAA GGT GCA TTG CTT GGA GCT TGT GTG ACT ATA CTT         816
 G   N   I   S   I   G   A   G   A   M   V   A   A   G   S   L         288
GGT AAC ATA AGC ATA GGT GCT GGA GCA ATG GTA GCT GCA GGT TCA CTT         864
 V   L   K   D   V   P   S   H   S   V   V   A   G   N   P   A         304
GTG TTA AAA GAC GTT CCT TCG CAT AGT GTG GTG GCT GGA AAT CCT GCA         912
 K   L   I   R   V   M   E   E   Q   D   P   S   L   A   M   K         320
AAA CTG ATC AGG GTC ATG GAA GAG CAA GAC CCG TCT CTA GCA ATG AAA         960
 H   D   A   T   K   E   F   F   R   H   V   A   D   G   Y   K         336
CAC GAT GCT ACT AAA GAG TTC TTT CGA CAT GTA GCT GAT GGT TAC AAA        1008
 G   A   Q   S   N   G   P   S   L   S   A   G   D   T   E   K         352
GGG GCA CAA TCT AAC GGA CCA TCA CTT TCA GCA GGA GAT ACA GAG AAA        1056
 G   H   T   N   S   T   S                                           359
GGA CAC ACT AAC AGC ACA TCA TGA                                      1104
```

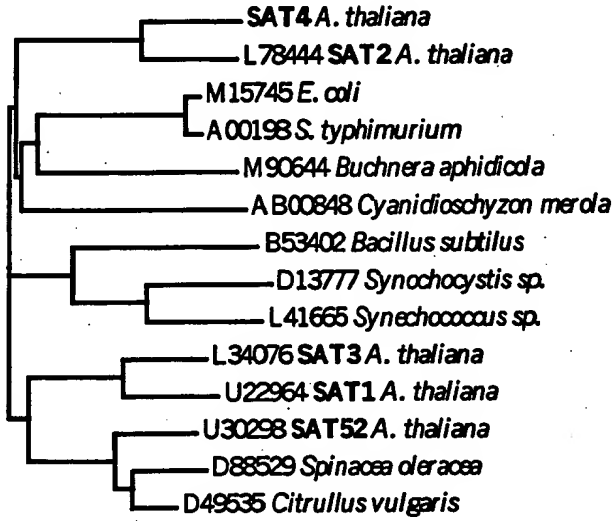
Figure 8: ~~Sequence nucléotidique et peptidique du m RNA de la serine acetyltransferase SAT 2 putative chloroplastique d'*Arabidopsis thaliana* (L78444)~~

Nucleotide and protein sequences from mRNA of the putative chloroplast serine acetyltransferase SAT2 from Arabidopsis thaliana (L78444)

```
M   A   C   I   N   G   E   N   R   D   F   S   S   S   S          15
ATG GCT TGT ATA AAC GGC GAG AAT CGT GAT TTT TCT TCC TCG TCA            45
S   L   S   S   L   P   M   I   V   S   R   N   F   S   A          30
TCT TTG TCT TCT CTT CCA ATG ATT GTC TCC CGG AAC TTT TCT GCC            90
R   D   D   G   E   T   G   D   E   F   P   F   E   R   I          45
AGA GAC GAT GGA GAG ACC GGT GAC GAG TTT CCT TTC GAG AGG ATT           135
F   P   V   Y   A   R   G   T   L   N   P   V   A   D   P          60
TTC CCG GTT TAC GCT AGA GGA ACC CTT AAT CCC GTG GCC GAC CCG           180
V   L   L   D   F   T   N   S   S   Y   D   P   I   W   D          75
GTT TTG CTG GAT TTT ACC AAT TCT AGT TAT GAC CCA ATT TGG GAT           225
S   I   R   E   E   A   K   L   E   A   E   E   E   P   V          90
TCT ATA AGA GAA GAA GCT AAG CTT GAG GCA GAA GAG GAG CCG GTT           270
L   S   S   F   L   Y   A   S   I   L   S   H   D   C   L         105
TTG AGT AGC TTC TTG TAT GCT AGT ATC TTG TCG CAT GAC TGT TTA           315
E   Q   A   L   S   F   V   L   A   N   R   L   Q   N   P         120
GAG CAA GCA TTG AGT TTT GTT CTA GCT AAC CGT CTC CAA AAC CCT           360
T   L   L   A   T   Q   L   M   D   I   F   C   N   V   M         135
ACC TTG TTG GCA ACT CAG CTT ATG GAT ATA TTT TGC AAC GTT ATG           405
V   H   D   R   G   I   Q   S   S   I   R   L   D   V   Q         150
GTA CAT GAC AGA GGT ATT CAA AGC TCG ATT CGT CTT GAT GTT CAG           450
A   F   K   D   R   D   P   A   C   L   S   Y   S   S   A         165
GCA TTC AAA GAC AGA GAT CCT GCT TGT CTA TCG TAT AGT TCG GCT           495
I   L   H   L   K   G   Y   L   A   L   Q   A   Y   R   V         180
ATT TTA CAT CTG AAG GGC TAT CTT GCA CTG CAG GCG TAT AGA GTA           540
A   H   K   L   W   K   Q   G   R   K   L   L   A   L   A         195
GCA CAT AAG TTG TGG AAG CAA GGA AGA AAA CTA TTA GCA TTG GCA           585
L   Q   S   R   V   S   E   V   R   T   A   V   I   G   D         210
CTG CAA AGC CGA GTA AGC GAG GTA AGA ACT GCT GTG ATA GGC GAC           630
R   V   S   I   L   H   G   V   T   L   G   G   T   G   K         225
CGT GTC TCA ATT TTG CAT GGT GTG ACA TTA GGA GGA ACT GGG AAA           675
E   T   G   D   R   H   P   N   I   G   D   G   A   L   L         240
GAA ACC GGT GAC CGC CAT CCA AAT ATA GGC GAC GGT GCT CTT CTT           720
G   A   C   V   T   I   L   G   N   I   K   I   G   A   G         255
GGA GCA TGT GTG ACT ATA CTT GGT AAC ATT AAG ATA GGC GCT GGA           765
A   M   V   A   A   G   S   L   V   L   K   D   V   P   S         270
GCA ATG GTA GCT GCT GGT TCG CTT GTG TTA AAG GAT GTT CCT TCG           810
H   S   M   V   A   G   N   P   A   K   L   I   G   F   V         285
CAT AGC ATG GTG GCT GGA AAT CCA GCA AAA CTC ATC GGG TTT GTT           855
D   E   Q   D   P   S   M   T   M   E   H   G   E   S             299
GAT GAG CAA GAT CCA TCT ATG ACA ATG GAG CAT GGT GAG TCT TGA           900
```

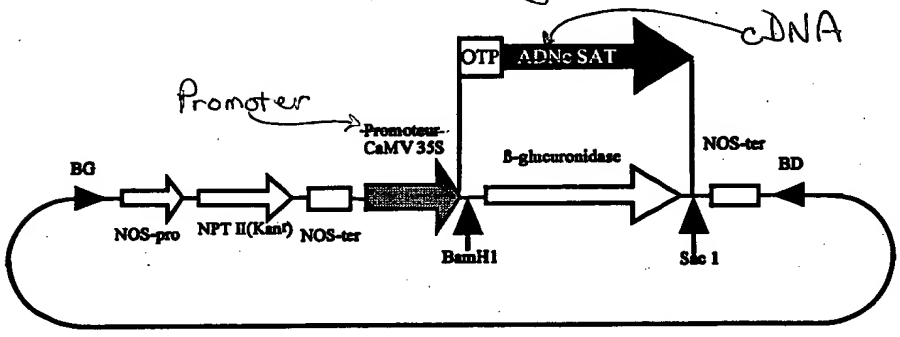
Figure 9: ~~Sequence nucleotidique et en acides aminés du mRNA de la SAT4 putative chloroplastique d'*Arabidopsis thaliana*.~~

Nucleotide and amino acid sequences from mRNA of the putative chloroplast SAT4 from Arabidopsis thaliana



Sequence comparison of serine acetyltransferases from A. thaliana and other organisms

Figure 10 ~~**Dendogramme des serine acétyltranferase issues de plusieurs organismes.**~~



Process for insertion of OTP/serine acetyltransferase SAT3 or cysteine-insensitive SAT such as truncated SAT1 in the vector pBI121

Figure 11: ~~**Procédure de clonage de l'OTP/Serine acétyltransférase SAT3 ou SAT (insensible à la cystéine, par exemple SAT1 tronqué) dans le vecteur pBI121.**~~

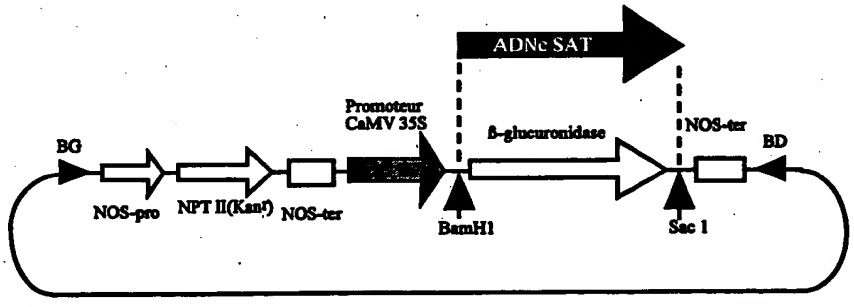


Figure 12: ~~**Procédure de clonage de la Serine acétyltransférase SAT1' ; SAT1 ; SAT2 ; SAT3, SAT3' ; SAT4, ou toutes SATs dans le vecteur pBI121.**~~

Process for insertion of serine acetyltransferase SAT1', SAT1, SAT2, SAT3, SAT3', SAT4 or any SAT in the vector pBI121